REMARKS

The Office Action and the cited and applied references have been carefully reviewed. No claim is allowed. Claims 1 and 17-19 presently appear in this application and define patentable subject matter warranting their allowance. Reconsideration and allowance are hereby respectfully solicited.

Claims 1 and 17-19 have been rejected under 35 U.S.C §103(a) as being unpatentable over Yongan (*PhD thesis*, 1996) in view of Yongan et al., *Mol. Cell Biol.* 18:1601-1610 (1998) and Ellis et al., *J. Immunol.* 155:925-937 (1995). The examiner states that Yongan teaches identification of FIP-2, a protein containing multiple leucine zipper domains, but concedes that there is no teaching of anti-FIP-2 antibodies in Yongan. However, the examiner asserts that it would have been obvious to one of skill in the art, at the time the invention was made, to raise antibodies directed to FIP-2 with a reasonable expectation of success. The examiner holds that by reading Yongan, one of skill in the art would have known that antibodies could be used to study interaction between intracellular proteins involved in intracellular signaling and their co-localization inside the cell. It is noted by the examiner that the present specification discloses that the leucine zipper domains and the C-terminus of RAP-2 (encoded by

SEQ ID NO:4) and FIP-2 are conserved. Therefore, the examiner concludes that anti-FIP-2 antibodies recognizing these domains would necessarily be specific for RAP-2. This rejection is respectfully traversed.

The cited and applied references, as well as the prior art, do not teach any antibodies against FIP-2. The examiner is merely taking the position that it would be obvious to make such antibodies against FIP-2. However, it should be pointed out that the vast majority of monoclonal antibodies raised against FIP-2 would not bind to RAP-2 as the areas of overlap (sequence identity) are small. Antibodies against FIP-2 that can also bind RAP-2 would have the unexpected property of also binding to RAP-2. This unexpected property cannot be anticipated by anti-FIP-2 antibodies in general, even if they were taught in the prior art, which they are not. However, the presence of the property of also binding to RAP-2, which clearly would be unexpected, rebuts any holding of *prima facie* obviousness.

New claims 20-23 are directed to antibodies specific for a RAP-2 epitope not found in the FIP-2 protein of SEQ ID NO:8. The present specification discloses in paragraphs [0054] and [0168] that antibodies of the present invention are specific for RAP-2 protein, in other words, antibodies that are unique to RAP-2 protein, i.e., not epitopes that are in

common with other proteins. As FIP-2 is disclosed in paragraphs [0224]-[0225], where it is taught that "the degree of overall similarity is fairly low between RAP-2 and FIP-2, FIP-2 is a known "other" protein for which the antibodies would not recognize if they are specific for RAP-2. It is further disclosed here that the C-terminal 30 amino acid residues in RAP-2 and FIP-2 are "virtually identical". However, this statement is not correct, as can be seen from Fig. 3(B)2 where there is only $\frac{17}{30}x100\% = 57\%$ amino acid sequence identity between RAP-2 (20.4 full; SEQ ID NO:4) and FIP-2.

The definition of "specific" or "specificity" of an antibody in Cruse and Lewis' "Illustrated Dictionary of Immunology", 1995, CRC Press, New York, pertinent pages of which are attached hereto, is the recognition of a specific epitope in the presence of other epitopes. Similarly, one of ordinary skill would immediately recognize and understand that antibodies specific for RAP-2 would recognize only RAP-2 in the presence of other proteins, i.e., in the presence of FIP-2 as well. Thus, "specific" for RAP-2 implicitly means that the antibody is specific for a RAP-2 epitope not found in other proteins, including in the FIP-2 protein of SEQ ID NO:8. Claim 1 is now amended to clarify this meaning, as supported by the present specification. Accordingly, contrary to the examiner's assertion, anti-FIP-2 antibodies recognizing the

leucine zipper domains and the FIP-2 C-terminal 30 amino acid residues would not encompass antibodies "specific" for RAP-2, as recited in new claims 20-23.

Reconsideration and withdrawal of the rejection are therefore respectfully requested.

In view of the above, the claims comply with 35 U.S.C. §112 and define patentable subject matter warranting their allowance. Favorable consideration and early allowance are earnestly urged.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.
Attorneys for Applicant(s)

By /ACY/
Allen C. Yun
Registration No. 37,971

ACY:pp
Telephone No.: (202) 628-5197
Facsimile No.: (202) 737-3528
G:\BN\I\inl2\Wallach27A\Pto\2008-01-28amendment.doc